

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2006-0104  
NPDES NO. CA0081655

WASTE DISCHARGE REQUIREMENTS  
FOR  
INDIAN SPRINGS ELEMENTARY SCHOOL  
GEOTHERMAL HEATING SYSTEM  
SHASTA COUNTY

The following Discharger is subject to waste discharge requirements as set forth in this Order:

<b>Discharger</b>	<b>Indian Springs Elementary School</b>
<b>Name of Facility</b>	<b>Geothermal Heating System</b>
<b>Facility Address</b>	<b>25299 Big Bend Road</b>
	<b>Big Bend, CA, 96011</b>
	<b>Shasta County</b>

The discharge by the Operator from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>	<b>Receiving Water</b>
001	Geothermal Water	41°01'15" N	121°54'25" W	Indian Springs Creek

This Order was adopted by the Regional Water Board on:	<b>22 September 2006</b>
This Order shall become effective on:	<b>11 November 2006</b>
This Order shall expire on:	<b>11 November 2011</b>
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Board have classified this discharge as a minor discharge.	
The Discharger shall file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, <b><u>not later than 180 days in advance of the Order expiration date</u></b> as application for issuance of new waste discharge requirements.	

IT IS HEREBY ORDERED, that Order No. 5-01-009 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in Division 7 of the California Water Code (CWC) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA), and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 22 September 2006.

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PAMELA C. CREEDON, Executive Officer

## TABLE OF CONTENTS

<b>I.</b>	Facility Information .....	3
<b>II.</b>	Findings.....	3
<b>III.</b>	Discharge Prohibitions.....	8
<b>IV.</b>	Effluent Limitations and Discharge Specifications .....	9
	<b>A.</b> Effluent Limitations – Discharge Point 001 .....	9
	<b>B.</b> Land Discharge Specifications – Not Applicable .....	9
	<b>C.</b> Reclamation Specifications – Not Applicable.....	9
<b>V.</b>	Receiving Water Limitations .....	10
	<b>A.</b> Surface Water Limitations.....	10
	<b>B.</b> Groundwater Limitations .....	12
<b>VI.</b>	Provisions.....	13
	<b>A.</b> Standard Provisions .....	13
	<b>B.</b> Monitoring and Reporting Program Requirements .....	17
	<b>C.</b> Special Provisions .....	18
	1. Reopener Provisions .....	18
	2. Special Studies, Technical Reports and Additional Monitoring Requirements .....	18
	3. Best Management Practices and Pollution Prevention – Not Applicable.....	20
	4. Construction, Operation and Maintenance Specifications – Not Applicable .....	20
	5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable .....	20
	6. Other Special Provisions.....	20
	7. Compliance Schedules – Not Applicable .....	21
<b>VII.</b>	Compliance Determination .....	21
	Attachment A – Definitions .....	A-1
	Attachment B – Topographic Map .....	B-1
	Attachment C – Flow Schematic .....	C-1
	Attachment D – Federal Standard Provisions.....	D-1
	Attachment E – Monitoring and Reporting Program (MRP).....	E-1
	Attachment F – Fact Sheet.....	F-1
	Attachment G – Constituents to be Monitored .....	G-1

## I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

<b>Discharger</b>	Indian Springs Elementary School
<b>Name of Facility</b>	Geothermal Heating System
<b>Facility Address</b>	25299 Big Bend Road
	Big Bend, CA, 96011
	Shasta County
<b>Facility Contact, Title, and Phone</b>	Michael J. Grady, Superintendent, 530-337-6219
<b>Mailing Address</b>	P.O. Box 317, Big Bend, CA 96011
<b>Type of Facility</b>	Geothermal heating system for elementary school.
<b>Wastewater Design Flow</b>	0.144 (in million gallons per day)

## II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Regional Water Board), finds:

- A. Background.** Indian Springs Elementary School (hereinafter Discharger) is currently discharging under Order No. 5-01-009 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0081655. The Discharger submitted a Report of Waste Discharge, dated 30 November 2005, and applied for a NPDES permit renewal to discharge geothermal wastewater to Indian Springs Creek from Indian Springs Elementary School, hereinafter Facility.
- B. Facility Description.** The Discharger operates a geothermal production well and heat-exchange equipment used for heating classrooms and a swimming pool at Indian Springs Elementary School. Spent geothermal wastewater is discharged at Discharge Point 001 (see table on cover page) to Indian Springs Creek, a water of the United States and a tributary to the Pit River. Attachment B provides a map of the area around the facility. Attachment C provides a flow schematic of the facility.
- C. Legal Authorities.** This Order is issued pursuant to Section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA Section 402.
- D. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. Attachment F, which contains background information and rationale for Order requirements, is hereby incorporated

into this Order and constitutes part of the Findings for this Order. Attachments A through G are also incorporated into this Order.

- E. California Environmental Quality Act (CEQA).** This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, *et seq.*) in accordance with Section 13389 of the CWC.
- F. Technology-Based Effluent Limitations.** The Code of Federal Regulations (CFR) at 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards.
- G. Water Quality-Based Effluent Limitations.** Section 122.44(d) of 40 CFR requires that permits include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR §122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA Section 304(a), proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information, or an indicator parameter.
- H. Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition*, for the *Sacramento and San Joaquin River Basins* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan.

The Basin Plan at page *II-2.00* states that the “...*beneficial uses of any specifically identified water body generally apply to its tributary streams.*” The Basin Plan does not specifically identify beneficial uses for Indian Springs Creek, but does identify present and potential uses for the Pit River from the mouth of Hat Creek to Shasta Lake, to which Indian Springs Creek is tributary. These beneficial uses are as follows: *municipal and domestic supply; agricultural supply, including stock watering; water contact recreation, including canoeing and rafting; non-contact water recreation, including aesthetic enjoyment; potential warm freshwater habitat; cold freshwater habitat; warm spawning, reproduction, and/or early development; cold spawning, reproduction, and/or early development; and wildlife habitat.* In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Thus, as discussed in detail in the Fact Sheet (Attachment F), beneficial uses applicable to the Indian Springs Creek are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Indian Springs Creek	<u>Existing:</u> MUN; AGR; REC-1; REC-2; WARM; COLD; SPWN; WILD

The State Water Board adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on

18 May 1972, and amended this plan on 18 September 1975. This plan contains temperature objectives for surface waters.

Requirements of this Order specifically implement the applicable *Water Quality Control Plans*.

- I. *National Toxics Rule (NTR) and California Toxics Rule (CTR)*.** USEPA adopted the NTR on 22 December 1992, which was amended on 4 May 1995 and 9 November 1999, and the CTR on 18 May 2000, which was amended on 13 February 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.
- J. *State Implementation Policy*.** On 2 March 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on 28 April 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on 18 May 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the California Toxics Rule. The State Water Board adopted amendments to the SIP on 24 February 2005 that became effective on 13 July 2005.
- K. *Compliance Schedules and Interim Requirements*.** Section 2.1 of the SIP provides that, based on a discharger's request and demonstration that it is infeasible for an existing discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under Section 5.3 of the SIP, a compliance schedule may not exceed five years from the date that the permit is issued or reissued, nor may it extend beyond ten years from the effective date of the SIP (or 18 May 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds one year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does not include compliance schedules and interim effluent limitations.
- L. *Alaska Rule*.** On 30 March 2000, USEPA revised its regulation that specifies when new and revised State and Tribal water quality standards (WQS) become effective for CWA purposes (40 CFR 131.21, 65 FR 24641, 27 April 2000). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after 30 May 2000 must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by 30 May 2000 may be used for CWA purposes, whether or not approved by USEPA.
- M. *Stringency of Requirements for Individual Pollutants*.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on the flow rate. Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water

quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on 18 May 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless “*applicable water quality standards for purposes of the CWA*” pursuant to 40 CFR 131.21(c)(1).

- N. Antidegradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. As discussed in detail in the Fact Sheet (Attachment F) the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board Resolution 68-16.
- O. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at 40 CFR § 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.
- P. Monitoring and Reporting.** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- Q. Standard and Special Provisions.** Standard Provisions, which in accordance with 40 CFR §§122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet (Attachment F).
- R. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet (Attachment F) of this Order.
- S. Consideration of Public Comment.** The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided

in the Fact Sheet (Attachment F) of this Order.

### **III.DISCHARGE PROHIBITIONS**

- A.** Discharge of wastewater at a location or in a manner different from that described in the Findings is prohibited.
- B.** The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provision I.A.7. [See Attachment D – Federal Standard Provisions] and Regional Water Board Standard Provision VI.A.2.g.
- C.** Neither the discharge nor its treatment shall create a nuisance as defined in Section 13050 of the California Water Code.



#### IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

##### A. Effluent Limitations – Discharge Point 001

###### 1. Final Effluent Limitations – Discharge Point 001

- a. The discharge of spent geothermal wastewater shall maintain compliance with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location M-001 as described in the attached Monitoring and Reporting Program (Attachment E):

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	mgd			0.144		
pH	standard units	--	--	--	6.0	9.0

- b. **Acute Toxicity:** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay - - - - - 70%

Median for any three or more consecutive bioassays - - - - 90%

###### 2. Interim Effluent Limitations – Not Applicable

##### B. Land Discharge Specifications – Not Applicable

##### C. Reclamation Specifications – Not Applicable

## V. RECEIVING WATER LIMITATIONS

### A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in Indian Springs Creek:

1. **Fecal Coliform.** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than ten percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL.
2. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
4. **Discoloration.** Discoloration that causes nuisance or adversely affects beneficial uses.
5. **Dissolved Oxygen:**
  - a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass;
  - b. The 95<sup>th</sup> percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
  - c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
7. **Oils and Greases.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
8. **pH.** The pH to be depressed below 6.5, raised above 8.5, nor changed by more than 0.5.
9. **Pesticides:**
  - a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
  - b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;

- c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by USEPA or the Executive Officer.
- d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 CFR §131.12.).
- e. Pesticide concentrations to exceed the lowest levels technically and economically achievable.
- f. Pesticides to be present in concentration in excess of the maximum contaminant levels set forth in California Code of Regulations, Title 22, Division 4, Chapter 15.
- g. Thiobencarb to be present in excess of 1.0 ug/L.

**10. Radioactivity:**

- a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
- b. Radionuclides to be present in excess of the maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.

**11. Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

**12. Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

**13. Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.

**14. Taste- or Odor-Producing Substances.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

**15. Temperature.** The natural temperature to be increased by more than 5°F.

**16. Toxic Substances.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

17. **Turbidity.** The turbidity to increase as follows:

- a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs.
- b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
- c. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.
- d. More than 10 percent where natural turbidity is greater than 100 NTUs.

**B. Groundwater Limitations**

1. The discharge shall not cause the underlying groundwater to be degraded.

## VI. PROVISIONS

### A. Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, Sections 13385, 13386, and 13387.

2. **Regional Water Board Standard Provisions.** The Discharger shall comply with the following provisions:
  - a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, Division 3, Chapter 14.
  - b. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
    - i. violation of any term or condition contained in this Order;
    - ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;
    - iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and
    - iv. a material change in the character, location, or volume of discharge.

The causes for modification include:

- i. New regulations. New regulations have been promulgated under Section 405(d) of the Clean Water Act, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.
- ii. Land application plans. When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.
- iii. Change in sludge use or disposal practice. Under 40 Code of Federal Regulations (CFR) 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

The Regional Water Board may review and revise this Order at any time upon application of any affected person or the Board's own motion.

- c. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Regional Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, **even if this Order has not yet been modified.**

- d. If more stringent applicable water quality standards are approved, pursuant to Section 303 of the CWA, or amendments thereto, the Regional Water Board will revise and modify this Order in accordance with such more stringent standards.
- e. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:
  - i. contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or
  - ii. controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

- f. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.
- g. By-pass (the intentional diversion of waste streams from any portion of a treatment facility or collection system, except those portions designed to meet variable effluent limits) is prohibited except under the following conditions:
  - i. by-pass is required for essential maintenance to assure efficient operation;  
**and**
  - ii. neither effluent nor receiving water limitations are exceeded;  
**and**

- iii. the Discharger notifies the Regional Water Board ten days in advance.
- h. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.
- i. The Discharger shall ensure compliance with any existing or future pretreatment standard promulgated by USEPA under Section 307 of the CWA, or amendment thereto, for any discharge to the municipal system.
- j. The discharge of any radiological, chemical or biological warfare agent or high-level, radiological waste is prohibited.
- k. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.
- l. Neither the treatment nor the discharge shall create a condition of nuisance or pollution as defined by the CWC, Section 13050.
- m. Safeguard to electric power failure:
  - i. The Discharger shall provide safeguards to assure that, should there be reduction, loss, or failure of electric power, the discharge shall comply with the terms and conditions of this Order.
  - ii. Upon written request by the Regional Water Board the Discharger shall submit a written description of safeguards. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past five years on effluent quality and on the capability of the Discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Regional Water Board.
  - iii. Should the treatment works not include safeguards against reduction, loss, or failure of electric power, or should the Regional Water Board not approve the existing safeguards, the Discharger shall, within ninety days of having been advised in writing by the Regional Water Board that the existing safeguards are inadequate, provide to the Regional Water Board and USEPA a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the Discharger shall comply with the terms and conditions of this Order. The schedule of compliance shall, upon approval of the Regional Water Board, become a condition of this Order.

- n. The Discharger, upon written request of the Regional Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events.

The technical report shall:

- i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.
- ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.
- iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The Regional Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

- o. A publicly owned treatment works (POTW) whose waste flow has been increasing, or is projected to increase, shall estimate when flows will reach hydraulic and treatment capacities of its treatment and disposal facilities. The projections shall be made in January, based on the last three years' average dry weather flows, peak wet weather flows and total annual flows, as appropriate. When any projection shows that capacity of any part of the facilities may be exceeded in four years, the Discharger shall notify the Regional Water Board by **31 January**. A copy of the notification shall be sent to appropriate local elected officials, local permitting agencies and the press. Within 120 days of the notification, the Discharger shall submit a technical report showing how it will prevent flow volumes from exceeding capacity or how it will increase capacity to handle the larger flows. The Regional Water Board may extend the time for submitting the report.
- p. The Discharger shall submit technical reports as directed by the Executive Officer.
- q. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program must be kept in the laboratory and shall be available for inspection by Board staff. The Quality Assurance-Quality Control Program must conform to EPA guidelines or to procedures approved by the Regional Water Board.



Unless otherwise specified, all metals shall be reported as Total Metals.

Unless otherwise specified, bioassays shall be performed in the following manner:

- i. Acute bioassays shall be performed in accordance with guidelines approved by the Regional Water Board and the Department of Fish and Game or in accordance with methods described in USEPA's manual for measuring acute toxicity of effluents (EPA-821-R-02-012 and subsequent amendments).
- ii. Short-term chronic bioassays shall be performed in accordance with USEPA guidelines (EPA-821-R-02-013 and subsequent amendments).
- r. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.
- s. The Discharger shall conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA's DMQA manager.
- t. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.
- u. All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy.
- v. The Discharger shall file with the Regional Water Board technical reports on self-monitoring performed according to the detailed specifications contained in the Monitoring and Reporting Program attached to this Order.
- w. The results of all monitoring required by this Order shall be reported to the Regional Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.
- x. Upon written request of the Board, the Discharger shall submit a summary monitoring report to the Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).

## **B. Monitoring and Reporting Program Requirements**

1. The discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order.

2. Within **60 days** of permit adoption, the Discharger shall submit a report outlining minimum levels, method detection limits, and analytical methods for approval, with a goal to achieve detection levels below applicable water quality criteria. At a minimum, the Discharger shall comply with the monitoring requirements for CTR constituents as outlined in Section 2.3 and 2.4 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*, adopted 2 March 2000 by the State Water Resources Control Board. All peaks identified by analytical methods shall be reported.
3. This permit, and the Monitoring and Reporting Program which is a part of this permit, requires that certain parameters be monitored on a continuous basis. The wastewater treatment plant is not staffed on a full time basis. Permit violations or system upsets can go undetected during this period. The Discharger is required to establish an electronic system for operator notification for continuous recording device alarms. For existing continuous monitoring systems, the electronic notification system shall be installed **within six months of adoption** of this permit. For systems installed following permit adoption, the notification system shall be installed simultaneously.

### C. Special Provisions

#### 1. Reopener Provisions

- a. Upon adoption of any applicable water quality standard for receiving waters by the Regional Water Board or the State Water Board pursuant to the CWA and regulations adopted thereunder, this permit may be reopened and receiving water limitations added.
- b. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on that objective.

#### 2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. **Priority Pollutant Monitoring.** The State Water Resources Control Board (SWRCB) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP). The SIP states that the Regional Boards will require periodic monitoring (at least once prior to issuance and reissuance of a permit) for pollutants for which criteria or objectives apply and for which no effluent limitations have been established.

The Regional Board is requiring, as part of this Monitoring and Reporting Program, that the Discharger monitor effluent and receiving water upstream of the discharge and analyze the sample for priority pollutant metals **one time, at least 180 days, but no more than 365 days prior to expiration of this Order.**

The Discharger must analyze pH and hardness of the effluent and intake water at the same time as priority pollutants. The priority pollutants, for which this one-time analysis is required are listed in Attachment G.

All priority pollutant analyses shall be performed at a laboratory certified by the California Department of Health Services. The laboratory is required to submit the Minimum Level (ML) and the Method Detection Limit (MDL) with the reported results for each constituent. The MDL should be as close as practicable to the USEPA MDL determined by the procedure found in 40 CFR Part 136. The results of analytical determinations for the presence of chemical constituents in a sample shall use the following reporting protocols:

- i. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory.
- ii. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.
- iii. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration." Numerical estimates of data quality may be by percent accuracy (+ or – a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
- iv. Sample results that are less than the laboratory's MDL shall be reported as "Not Detected" or ND.

3. **Best Management Practices and Pollution Prevention – Not Applicable**
4. **Construction, Operation and Maintenance Specifications – Not Applicable**
5. **Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable**
6. **Other Special Provisions**
  - a. The Discharger shall use the best practicable treatment or control technique currently available to limit mineralization to no more than a reasonable increment.
  - b. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, Sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, Sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
  - c. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition or limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (530) 224-4845 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Federal Standard Provision V.E.1 [*40 CFR §122.41(l)(6)(i)*].
  - d. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger shall obtain approval of, or clearance from the State Water Resources Control Board (Division of Water Rights).

- e. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision V.B and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

#### **7. Compliance Schedules – Not Applicable**

### **VII. COMPLIANCE DETERMINATION**

Compliance with the effluent limitations contained in Section IV of this Order will be determined as specified below:

#### **A. Average Monthly Effluent Limitation (AMEL).**

If the average of daily discharges over a calendar month exceeds the AMEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for each day of that month for that parameter (*e.g.*, resulting in 31 days of non-compliance in a 31-day month). The average of daily discharges over the calendar month that exceeds the AMEL for a parameter will be considered out of compliance for that month only. If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the discharger will be considered out of compliance for that calendar month. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

#### **B. Average Weekly Effluent Limitation (AWEL).**

If the average of daily discharges over a calendar week exceeds the AWEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for each day of that week for that parameter, resulting in **seven (7)** days of non-compliance. The average of daily discharges over the calendar week that exceeds the AWEL for a parameter will be considered out of compliance for that week only. If only a single sample is taken during the calendar week and the analytical result for that sample exceeds the AWEL, the discharger will be considered out of compliance for that calendar week. For any one calendar week during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar week.

**C. Maximum Daily Effluent Limitation (MDEL).**

If a daily discharge exceeds the MDEL for a given parameter, an alleged violation will be flagged and the discharger will be considered out of compliance for that parameter for that one day only within the reporting period. For any one day during which no sample is taken, no compliance determination can be made for that day.

**D. Instantaneous Minimum Effluent Limitation.**

If the analytical result of a single grab sample is lower than the instantaneous minimum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (*e.g.*, the results of two grab samples taken within a calendar day that both are lower than the instantaneous minimum effluent limitation would result in two instances of non-compliance with the instantaneous minimum effluent limitation).

**E. Instantaneous Maximum Effluent Limitation.**

If the analytical result of a single grab sample is higher than the instantaneous maximum effluent limitation for a parameter, a violation will be flagged and the discharger will be considered out of compliance for that parameter for that single sample. Non-compliance for each sample will be considered separately (*e.g.*, the results of two grab samples taken within a calendar day that both exceed the instantaneous maximum effluent limitation would result in two instances of non-compliance with the instantaneous maximum effluent limitation).

## ATTACHMENT A – DEFINITIONS

**Average Four-Day Effluent Limitation:** the highest allowable average of daily discharges over a four-day period, calculated as the sum of all daily discharges measured during a four-day period divided by the number of daily discharges measured during that four-day period.

**Average Hourly Effluent Limitation:** the highest allowable average of discharges over a one-hour period, calculated as the sum of all discharges measured during that one-hour period divided by the number of discharges measured during that one-hour period.

**Average Monthly Effluent Limitation (AMEL):** the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

**Daily Discharge:** Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (*e.g.*, concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if one day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

**Instantaneous Maximum Effluent Limitation:** the highest allowable value for any single grab sample or aliquot (*i.e.*, each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

**Instantaneous Minimum Effluent Limitation:** the lowest allowable value for any single grab sample or aliquot (*i.e.*, each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

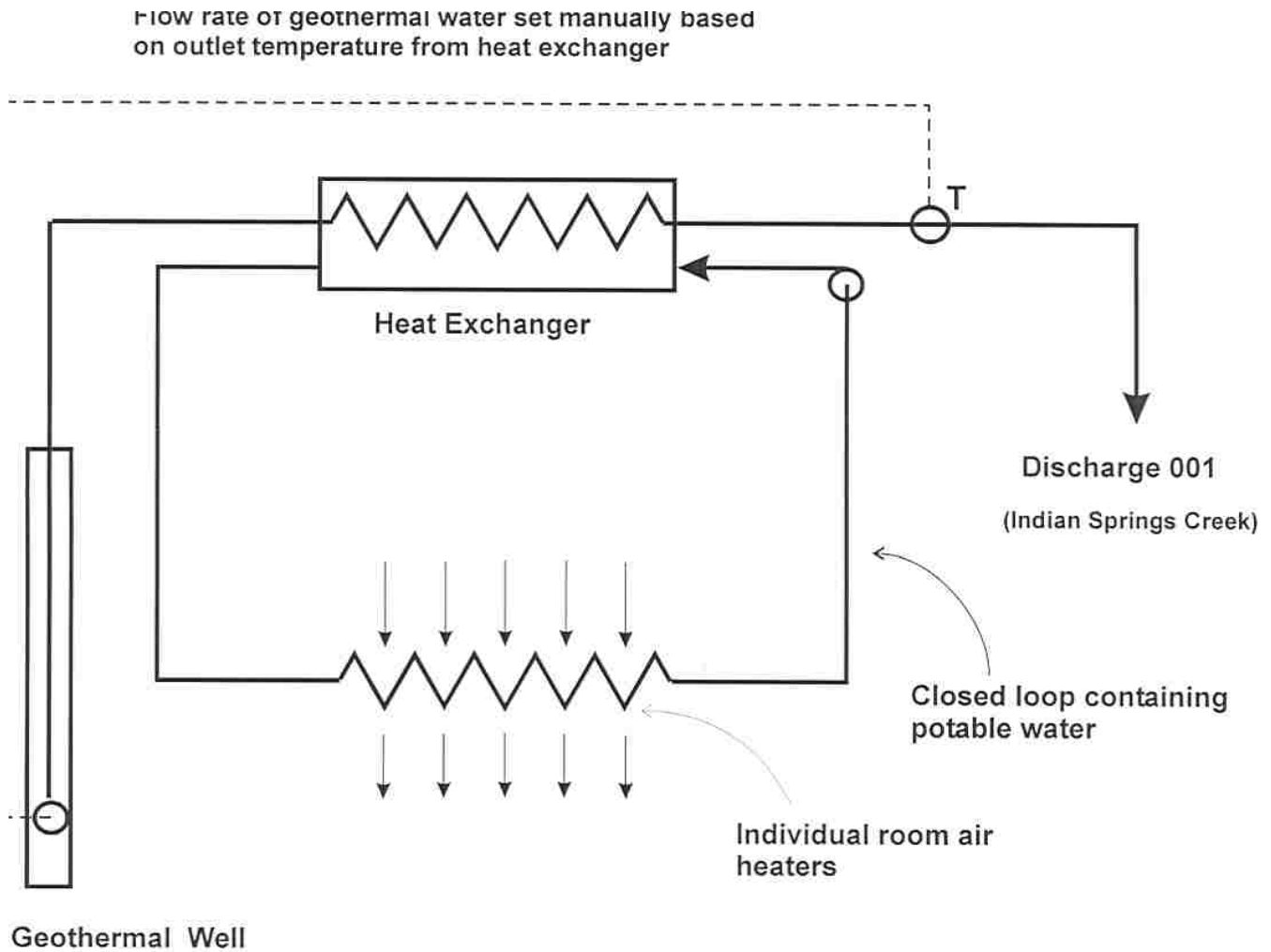
**Maximum Daily Effluent Limitation (MDEL):** the highest allowable daily discharge of a pollutant.

**ATTACHMENT B – TOPOGRAPHIC MAP**





**ATTACHMENT C – FLOW SCHEMATIC**



**Geothermal Heating System Flow Chart**

## **ATTACHMENT D – FEDERAL STANDARD PROVISIONS**

### **I. STANDARD PROVISIONS – PERMIT COMPLIANCE**

#### **A. Duty to Comply**

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code (CWC) and is grounds for enforcement action, for permit termination, revocation and reissuance, or denial of a permit renewal application [40 *CFR* §122.41(a)].
2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not been modified to incorporate the requirement [40 *CFR* §122.41(a)(1)].

#### **B. Need to Halt or Reduce Activity Not a Defense**

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order [40 *CFR* §122.41(c)].

#### **C. Duty to Mitigate**

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment [40 *CFR* §122.41(d)].

#### **D. Proper Operation and Maintenance**

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order [40 *CFR* §122.41(e)].

#### **E. Property Rights**

1. This Order does not convey any property rights of any sort or any exclusive privileges [40 *CFR* §122.41(g)].
2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations [40 *CFR* §122.5(c)].

## **F. Inspection and Entry**

The Discharger shall allow the Regional Water Quality Control Board (Regional Water Board), State Water Resources Control Board (State Water Board), United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to [40 CFR §122.41(i)] [CWC 13383(c)]:

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order [40 CFR §122.41(i)(1)];
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order [40 CFR §122.41(i)(2)];
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order [40 CFR §122.41(i)(3)];
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the CWC, any substances or parameters at any location [40 CFR §122.41(i)(4)].

## **G. Bypass**

1. Definitions
  - a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility [40 CFR §122.41(m)(1)(i)].
  - b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production [40 CFR §122.41(m)(1)(ii)].
2. Bypass not exceeding limitations – The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below [40 CFR §122.41(m)(2)].
3. Prohibition of bypass – Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless [40 CFR §122.41(m)(4)(i)]:
  - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage [40 CFR §122.41(m)(4)(A)];

- b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance [40 CFR §122.41(m)(4)(B)]; and
  - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below [40 CFR §122.41(m)(4)(C)].
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above [40 CFR §122.41(m)(4)(ii)].
5. Notice
- a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass [40 CFR §122.41(m)(3)(i)].
  - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice) [40 CFR §122.41(m)(3)(ii)].

## H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [40 CFR §122.41(n)(1)].

- 1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review [40 CFR §122.41(n)(2)].
- 2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that [40 CFR §122.41(n)(3)]:
  - a. An upset occurred and that the Discharger can identify the cause(s) of the upset [40 CFR §122.41(n)(3)(i)];

- b. The permitted facility was, at the time, being properly operated [40 CFR §122.41(n)(3)(i)];
  - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) [40 CFR §122.41(n)(3)(iii)]; and
  - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above [40 CFR §122.41(n)(3)(iv)].
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof [40 CFR §122.41(n)(4)].

## **II. STANDARD PROVISIONS – PERMIT ACTION**

### **A. General**

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition [40 CFR §122.41(f)].

### **B. Duty to Reapply**

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit [40 CFR §122.41(b)].

### **C. Transfers**

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the CWC [40 CFR §122.41(l)(3)] [40 CFR §122.61].

## **III. STANDARD PROVISIONS – MONITORING**

- A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity [40 CFR §122.41(j)(1)].
- B. Monitoring results must be conducted according to test procedures under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503 unless other test procedures have been specified in this Order [40 CFR §122.41(j)(4)] [40 CFR §122.44(i)(1)(iv)].

## **IV. STANDARD PROVISIONS – RECORDS**

- A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the Discharger shall retain records of all

monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time [40 CFR §122.41(j)(2)].

**B. Records of monitoring information shall include:**

1. The date, exact place, and time of sampling or measurements [40 CFR §122.41(j)(3)(i)];
2. The individual(s) who performed the sampling or measurements [40 CFR §122.41(j)(3)(ii)];
3. The date(s) analyses were performed [40 CFR §122.41(j)(3)(iii)];
4. The individual(s) who performed the analyses [40 CFR §122.41(j)(3)(iv)];
5. The analytical techniques or methods used [40 CFR §122.41(j)(3)(v)]; and
6. The results of such analyses [40 CFR §122.41(j)(3)(vi)].

**C. Claims of confidentiality for the following information will be denied [40 CFR §122.7(b)]:**

1. The name and address of any permit applicant or Discharger [40 CFR §122.7(b)(1)]; and
2. Permit applications and attachments, permits and effluent data [40 CFR §122.7(b)(2)].

**V. STANDARD PROVISIONS – REPORTING**

**A. Duty to Provide Information**

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order [40 CFR §122.41(h)] [CWC 13267].

**B. Signatory and Certification Requirements**

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below [40 CFR §122.41(k)].
2. All permit applications shall be signed as follows:
  - a. For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-

- president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures [40 CFR §122.22(a)(1)];
- b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively [40 CFR §122.22(a)(2)]; or
  - c. For a municipality, State, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (*e.g.*, Regional Administrators of USEPA) [40 CFR §122.22(a)(3)].
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in paragraph (b) of this provision, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- a. The authorization is made in writing by a person described in paragraph (2.) of this provision [40 CFR §122.22(b)(1)];
  - b. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company (a duly authorized representative may thus be either a named individual or any individual occupying a named position) [40 CFR §122.22(b)(2)]; and
  - c. The written authorization is submitted to the Regional Water Board, State Water Board, or USEPA [40 CFR §122.22(b)(3)].
4. If an authorization under paragraph (3.) of this provision is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (3.) of this provision must be submitted to the Regional Water Board, State Water Board, or USEPA prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR §122.22(c)].

5. Any person signing a document under paragraph (2.) or (3.) of this provision shall make the following certification:

*"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations" [40 CFR §122.22(d)].*

### **C. Monitoring Reports**

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program in this Order [40 CFR §122.41(l)(4)].
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices [40 CFR §122.41(l)(4)(i)].
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board [40 CFR §122.41(l)(4)(ii)].
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order [40 CFR §122.41(l)(4)(iii)].

### **D. Compliance Schedules**

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date [40 CFR §122.41(l)(5)].

### **E. Twenty-Four Hour Reporting**

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance [40 CFR §122.41(l)(6)(i)].



2. The following shall be included as information that must be reported within 24 hours under this paragraph [40 CFR §122.41(l)(6)(ii)]:
  - a. Any unanticipated bypass that exceeds any effluent limitation in this Order [40 CFR §122.41(l)(6)(ii)(A)].
  - b. Any upset that exceeds any effluent limitation in this Order [40 CFR §122.41(l)(6)(ii)(B)].
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours [40 CFR §122.41(l)(6)(iii)].

#### **F. Planned Changes**

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when [40 CFR §122.41(l)(1)]:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR §122.29(b) [40 CFR §122.41(l)(1)(i)]; or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in this Order nor to notification requirements under 40 CFR Part 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1) [40 CFR §122.41(l)(1)(ii)].
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan [40 CFR §122.41(l)(1)(iii)].

#### **G. Anticipated Noncompliance**

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements [40 CFR §122.41(l)(2)].

#### **H. Other Noncompliance**

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above [40 CFR §122.41(l)(7)].

## **I. Other Information**

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information [40 CFR §122.41(l)(8)].

## **VI. STANDARD PROVISIONS – ENFORCEMENT—NOT APPLICABLE**

## **VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS**

### **A. Non-Municipal Facilities**

Existing manufacturing, commercial, mining, and silvicultural dischargers shall notify the Regional Water Board as soon as they know or have reason to believe [40 CFR §122.42(a)]:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [40 CFR §122.42(a)(1)]:
  - a. 100 micrograms per liter (µg/L) [40 CFR §122.42(a)(1)(i)];
  - b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony [40 CFR §122.42(a)(1)(ii)];
  - c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR §122.42(a)(1)(iii)]; or
  - d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [40 CFR §122.42(a)(1)(iv)].
2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" [40 CFR §122.42(a)(2)]:
  - a. 500 micrograms per liter (µg/L) [40 CFR §122.42(a)(2)(i)];
  - b. 1 milligram per liter (mg/L) for antimony [40 CFR §122.42(a)(2)(ii)];
  - c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge [40 CFR §122.42(a)(2)(iii)]; or
  - d. The level established by the Regional Water Board in accordance with 40 CFR §122.44(f) [40 CFR §122.42(a)(2)(iv)].

**Attachment E – Monitoring and Reporting Program – Table of Contents**

Attachment E – Monitoring and Reporting Program (MRP).....	E-2
<b>I.</b> General Monitoring Provisions.....	E-2
<b>II.</b> Monitoring Locations.....	E-2
<b>III.</b> Influent Monitoring Requirements – Not Applicable.....	E-2
<b>IV.</b> Effluent Monitoring Requirements .....	E-3
<b>A.</b> Monitoring Location M-001 .....	E-3
<b>V.</b> Whole Effluent Toxicity Testing Requirements .....	E-3
<b>A.</b> Acute Toxicity Testing .....	E-3
<b>B.</b> Three Species Chronic Toxicity Monitoring.....	E-3
<b>VI.</b> Land Discharge Monitoring Requirements – Not Applicable .....	E-4
<b>VII.</b> Reclamation Monitoring Requirements – Not Applicable .....	E-4
<b>VIII.</b> Receiving Water Monitoring Requirements – Surface Water and Groundwater .....	E-4
<b>A.</b> Monitoring Location R-001U and R-002D .....	E-4
<b>B.</b> Monitoring Location – Not Applicable .....	E-5
<b>IX.</b> Other Monitoring Requirements – Not Applicable .....	E-5
<b>X.</b> Reporting Requirements .....	E-6
<b>A.</b> General Monitoring and Reporting Requirements .....	E-6
<b>B.</b> Self Monitoring Reports (SMRs) .....	E-6
<b>C.</b> Discharge Monitoring Reports (DMRs) – Not Applicable .....	E-8
<b>D.</b> Other Reports .....	E-8

## **ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)**

The Code of Federal Regulations (CFR) at 40 CFR §122.48 requires that all NPDES permits specify monitoring and reporting requirements. CWC Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements which implement the federal and California regulations.

### **I. GENERAL MONITORING PROVISIONS**

- A.** All monitoring and analysis instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy.
- B.** A letter transmitting the self-monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions.
- C.** If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.
- D.** Laboratories analyzing monitoring samples shall be certified by the Department of Health Services, in accordance with the provision of Water Code Section 13176, and must include quality assurance/quality control data with their reports.

### **II. MONITORING LOCATIONS**

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

<b>Discharge Point Name</b>	<b>Monitoring Location Name</b>	<b>Monitoring Location Description</b>
D-001	M-001	Downstream from the last connection through which wastes can be admitted to the outfall (41°01'15" N, 121°54'25" W )
--	R-001U	Indian Springs Creek 50 feet upstream from the discharge point
--	R-002D	Indian Springs Creek at the Hot Springs Road Bridge

### **III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE**

#### IV. EFFLUENT MONITORING REQUIREMENTS

##### A. Monitoring Location M-001

1. Effluent samples shall be collected downstream from the last connection through which wastes can be admitted into the outfall, following the last unit process. Effluent samples should be representative of the volume and quality of the discharge. Time of collection of samples shall be recorded. The Discharger shall monitor wastewater at M-001 as follows:

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	mgd	Meter	Weekly	[1]
pH	standard units	Grab	Weekly	[1]
Temperature	°F	Grab	Weekly	[1]
Electrical Conductivity @ 25°C	µmhos/cm	Grab	Annually	[1]
Total Dissolved Solids	mg/L	Grab	Annually	[1]

1. Pollutants shall be analyzed using the analytical methods described in 40 CFR sections 136; for priority pollutants the methods must meet the lowest minimum levels (MLs) specified in Attachment 4 of the SIP, where no methods are specified for a given pollutant, by methods approved by this Regional Board or the State Board
2. If the discharge is intermittent rather than continuous, then on the first day of each such intermittent discharge, the Discharger shall monitor and record data for all of the constituents listed above, except for priority pollutants, after which the frequencies of analysis given in the schedule shall apply for the duration of each such intermittent discharge. In no event shall the Discharger be required to monitor and record data more often than twice the frequencies listed in the schedule.

#### V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

##### A. Acute Toxicity Testing.

1. Acute toxicity of the effluent shall be evaluated at Discharge Point D-001/EFF-001 once during the lifetime of the Permit in conjunction with the Chronic Toxicity Testing.
2. All bioassays shall be performed according to *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition*, October 2002 (or latest edition) using *Pimephales promelas* with no pH adjustment, with exceptions granted to the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

##### B. Three Species Chronic Toxicity Monitoring

Chronic toxicity monitoring shall be conducted to determine whether the effluent is contributing toxicity to the receiving water. The testing shall be conducted as specified in

*Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, October 2002, EPA-821-R-02-013* (or latest edition). Chronic toxicity samples shall be collected at D-001/M-001 prior to the discharge entering Indian Springs Creek. Twenty-four hour composite samples shall be representative of the volume and quality of the discharge. Time of collection samples shall be recorded. Dilution and control waters shall be obtained immediately upstream of the discharge from an area unaffected by the discharge in the receiving waters. Standard dilution water can be used if the receiving water source exhibits toxicity and is approved by the Executive Officer. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results. Both the reference toxicant and effluent test must meet all test acceptability criteria as specified in the chronic manual. If the test acceptability criteria are not achieved, then the Discharger must re-sample and re-test within 14 days. Chronic toxicity monitoring shall include the following:

**Species:** *Pimphales promelas*, *Ceriodaphnia dubia* and *Selenastrum capricornutum*

**Frequency:** Once during the life of the Permit between with the sample taken during the month of January.

**Dilution Series:**

	Dilutions (%)					Controls	
	100	75	50	25	12.5	Miners Ravine	Lab Water
% Effluent	100	75	50	25	12.5	0	0
% Dilution Water*	0	25	50	75	87.5	100	0
% Lab Water	0	0	0	0	0	0	100

\* Dilution water shall be receiving water from Indian Springs.

The dilution series and dilution water may be altered upon approval of Regional Board staff.

**VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE**

**VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE**

**VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER AND GROUNDWATER**

**A. Monitoring Location R-001U and R-002D**

1. The Discharger shall monitor Indian Springs Creek at R-001U and R-002D as follows

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
pH	Number	Grab	Weekly	<sup>1</sup>
Temperature	°F	Grab	Weekly	<sup>1</sup>
Electrical Conductivity	µmhos/cm	Grab	Quarterly	<sup>1</sup>
Total Dissolved Solids	mg/L	Grab	Quarterly	<sup>1</sup>

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Stations R-001U and R-002D. Attention shall be given to the presence or absence of:

- |                                 |  |
|---------------------------------|--|
| a. Floating or suspended matter | e. Visible films, sheens or coatings       |
| b. Discoloration                | f. Fungi, slimes, or objectionable growths |
| c. Bottom deposits              | g. Potential nuisance conditions           |
| d. Aquatic life                 |  |

Notes on receiving water conditions shall be summarized in the monitoring report.

**B. Monitoring Location – Not Applicable**

**IX. OTHER MONITORING REQUIREMENTS – NOT APPLICABLE**

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<sup>1</sup> A hand-held field meter may be used, provided the meter utilizes a USEPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the WWTP.

## **X. REPORTING REQUIREMENTS**

### **A. General Monitoring and Reporting Requirements**

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. The Discharger shall report to the Regional Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "Emergency Planning and Community Right to Know Act of 1986".
3. In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the reported analytical result are readily discernible. The data shall be summarized in such a manner to clearly illustrate whether the discharge complies with waste discharge requirements. Monthly maximums, minimums, and averages shall be reported for each monitored constituent and parameter. Removal efficiencies (%) for biochemical oxygen demand and total suspended solids and all periodic averages and medians for which there are limitations shall also be calculated and reported.
4. With the exception of flow, all constituents monitored on a continuous basis (metered), shall be reported as daily maximums, daily minimums, and daily averages; flow shall be reported as the total volume discharged per day for each day of discharge.

### **B. Self Monitoring Reports (SMRs)**

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs in accordance with the requirements described in subsection B.5 below. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. Additionally, the Discharger shall report in the SMR the results of any special studies, technical reports, or monitoring requirements required by Special Provisions – VI.C. 2 of this Order. The Discharger shall submit **monthly** SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:



Sampling Frequency	Monitoring Period Begins On...	Monitoring Period	SMR Due Date
Weekly	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	First day of second calendar month following month of sampling
Annually	January 1 following (or on) permit effective date	January 1 through December 31	February 1

4. Reporting Protocols. The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR Part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy ( $\pm$  a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
  - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
5. The Discharger shall submit hard copy SMRs (with an original signature) when required by subsection B.1 above in accordance with the following requirements:
- a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations.

- b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
- c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

California Regional Water Quality Control Board  
Central Valley Region - Redding Office  
415 Knollcrest Drive, Suite 100  
Redding, CA 96002

**C. Discharge Monitoring Reports (DMRs) – Not Applicable**

**D. Other Reports**

1. The Discharger's sanitary sewer system collects wastewater using sewers, pipes, pumps, and/or other conveyance systems and directs the raw sewage to the wastewater treatment plant. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant. Sanitary sewer overflows are prohibited by this Order. All violations must be reported as required in Standard Provisions. Facilities (such as wet wells, regulated impoundments, tanks, highlines, *etc.*) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage facilities.
2. By **1 February** of each year, the Discharger shall submit a written report to the Executive Officer containing the following:
  - a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.
  - b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.
  - c. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.
  - d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the geothermal heating system as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

- e. The Discharger may also be requested to submit an annual report to the Regional Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

## Attachment F – Fact Sheet – Table of Contents

Attachment F – Fact Sheet.....	F-12
<b>I. Permit Information.....</b>	<b>F-12</b>
<b>II. Facility Description.....</b>	<b>F-13</b>
<b>A. Description of Wastewater and Biosolids Treatment or Controls.....</b>	<b>F-13</b>
<b>B. Discharge Points and Receiving Waters .....</b>	<b>F-13</b>
<b>C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data .....</b>	<b>F-13</b>
<b>D. Compliance Summary .....</b>	<b>F-14</b>
<b>E. Planned Changes – Not Applicable.....</b>	<b>F-14</b>
<b>III. Applicable Plans, Policies, and Regulations.....</b>	<b>F-14</b>
<b>A. Legal Authorities .....</b>	<b>F-14</b>
<b>B. California Environmental Quality Act (CEQA).....</b>	<b>F-15</b>
<b>C. State and Federal Regulations, Policies, and Plans .....</b>	<b>F-15</b>
<b>D. Impaired Water Bodies on CWA 303(d) List – Not Applicable .....</b>	<b>F-18</b>
<b>E. Other Plans, Policies, and Regulations – Not Applicable .....</b>	<b>F-18</b>
<b>IV. Rationale For Effluent Limitations and Discharge Specifications .....</b>	<b>F-18</b>
<b>A. Discharge Prohibitions .....</b>	<b>F-19</b>
<b>B. Technology-Based Effluent Limitations – Not Applicable.....</b>	<b>F-20</b>
<b>C. Water Quality-Based Effluent Limitations (WQBELs) .....</b>	<b>F-20</b>
1. Scope and Authority .....	F-20
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives .....	F-20
3. Determining the Need for WQBELs.....	F-21
4. WQBEL Calculations –Not Applicable.....	F-24
5. Whole Effluent Toxicity (WET).....	F-24
<b>D. Final Effluent Limitations .....</b>	<b>F-25</b>
<b>E. Interim Effluent Limitations – Not Applicable .....</b>	<b>F-25</b>
<b>F. Land Discharge Specifications – Not Applicable .....</b>	<b>F-25</b>
<b>G. Reclamation Specifications – Not Applicable.....</b>	<b>F-25</b>
<b>V. Rationale for Receiving Water Limitations .....</b>	<b>F-25</b>
<b>A. Surface Water .....</b>	<b>F-25</b>
<b>B. Groundwater – Not Applicable .....</b>	<b>F-27</b>
<b>VI. Rationale for Monitoring and Reporting Requirements .....</b>	<b>F-27</b>
<b>A. Influent Monitoring – Not Applicable.....</b>	<b>F-27</b>
<b>B. Effluent Monitoring.....</b>	<b>F-27</b>
<b>C. Whole Effluent Toxicity Testing Requirements .....</b>	<b>F-27</b>
<b>D. Receiving Water Monitoring.....</b>	<b>F-28</b>
1. Surface Water.....	F-28
2. Groundwater – Not Applicable.....	F-28
<b>E. Other Monitoring Requirements – Not Applicable.....</b>	<b>F-28</b>
<b>VII. Rationale for Provisions.....</b>	<b>F-28</b>
<b>A. Standard Provisions .....</b>	<b>F-28</b>
<b>B. Special Provisions .....</b>	<b>F-28</b>
1. Reopener Provisions .....	F-28
2. Special Studies and Additional Monitoring Requirements.....	F-29
3. Best Management Practices and Pollution Prevention – Not Applicable.....	F-30
4. Construction, Operation, and Maintenance Specifications– Not Applicable .....	F-30

5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable .....	F-30
6. Other Special Provisions.....	F-30
7. Compliance Schedules – Not Applicable .....	F-31
<b>VIII. Public Participation.....</b>	<b>F-31</b>
A. Notification of Interested Parties.....	F-31
B. Written Comments .....	F-31
C. Public Hearing.....	F-32
D. Waste Discharge Requirements Petitions.....	F-32
E. Information and Copying .....	F-32
F. Register of Interested Persons .....	F-32
G. Additional Information.....	F-32

## ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This renewed Order regulates the discharge of up to 0.144 million gallons per day (mgd) of effluent from the Indian Springs Elementary School. This Order includes effluent and surface water limitations, monitoring and reporting requirements, additional study requirements, and reopener provisions.

### I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

<b>WDID</b>	5A452029001
<b>Discharger</b>	Indian Springs Elementary School
<b>Name of Facility</b>	Geothermal Heating System
<b>Facility Address</b>	25299 Big Bend Road
	Big Bend, CA 96011
	Shasta
<b>Facility Contact, Title and Phone</b>	Michael J. Grady, Superintendent, 530-337-6219
<b>Authorized Person to Sign and Submit Reports</b>	Michael J. Grady, Superintendent, 530-337-6219
<b>Mailing Address</b>	P.O. Box 317, Big Bend, CA 96011
<b>Billing Address</b>	Same as mailing address
<b>Type of Facility</b>	Geothermal heating system for elementary school.
<b>Major or Minor Facility</b>	Minor
<b>Threat to Water Quality</b>	3
<b>Complexity</b>	C
<b>Pretreatment Program</b>	N
<b>Reclamation Requirements</b>	NA
<b>Facility Permitted Flow</b>	0.144 (in million gallons per day)
<b>Facility Design Flow</b>	0.144 (in million gallons per day)
<b>Watershed</b>	Big Bend HSA (526.15)
<b>Receiving Water</b>	Indian Springs Creek
<b>Receiving Water Type</b>	Intermittent Stream

- A. Indian Springs Elementary School (hereinafter Discharger) is the owner and operator of a geothermal production well and heat-exchange equipment (hereinafter Facility) used for heating classrooms and a swimming pool at Indian Springs School.
- B. The Facility discharges wastewater to Indian Springs Creek, a water of the United States and is currently regulated by Order 5-01-009 which was adopted on 26 January 2001 and expired on 26 January 2006. The terms of the existing Order provided for continuance of coverage after the expiration date.
- C. The Discharger filed a report of waste discharge and submitted an application for renewal of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on 30 November 2005.

## **II. FACILITY DESCRIPTION**

The Facility is located at 25299 Big Bend Road, Big Bend, Shasta County, within Assessor's Parcel Numbers (APNs) 022-060-21 and 022-330-12, as shown in Attachment B.

### **A. Description of Wastewater and Biosolids Treatment or Controls**

Geothermal water is pumped from an 820 foot well. The pump is set at about 336 feet. The geothermal water is passed through a heat exchanger in which potable water is heated by the geothermal water and circulated through the room heaters. Spent geothermal water, which has passed through the heat exchanger, is discharged to Indian Springs Creek, a tributary to the Pit River. Peak winter flows are 0.144 million gallons/day. Peak summer flow are 0.007 million gallons/day. The temperature range of the discharge is 112° F in winter to 102° F in summer.

### **B. Discharge Points and Receiving Waters**

- 1. Geothermal wastewater from the Facility is discharged to Discharge Point 001. Once offsite, wastewater flows into the Indian Springs Creek.
- 2. Indian Springs Creek, a seasonal intermittent stream, which enters the Pit River approximately  $\frac{3}{4}$  miles northwest of the discharge point. Indian Springs Creek also passes through an area of natural hot springs below the discharge point. These natural hot springs discharge geothermal water to Indian Springs Creek, elevating its temperature, prior to discharging to the Pit River.

### **C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data**

- 1. Effluent limitations contained in the existing Order for discharges from Discharge Point 001 (Monitoring Location M-001) and representative monitoring data from the term of the previous Order are as follows:

Parameter (units)	Effluent Limitation			Monitoring Data (From July 2001 – To September 2005)		
	Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Flow	-	-	0.144 mgd	-	-	0.166
pH	-	-	[6.0, 9.0] <sup>1</sup>	-	-	8.2

2. The Report of Waste Discharge describes the wastewater discharge as follows:

Maximum Daily Flow Rate:	0.157	mgd
Annual Average Daily Flow Rate:	0.045	mgd
Average Temperature, Summer:	107	°F
Average Temperature, Winter:	102	°F
pH	8.2	standard unit

#### D. Compliance Summary

1. A permit renewal application was not submitted to the RWQCB within 180 days of expiration date as required by Permit Provision E.8.
2. The discharger had an effluent flow limit exceedance of 0.166 mgd (reported as 1,162,224 gallons per week) on 20 January 2005. The permit renewal application reported a discharge flow maximum daily value of 157,000, with no units. The facility staff could not verify where the data originated from but stated it is in gallons per day (gpd). If the data holds, the flow exceeded the effluent limit of 0.144 mgd (or 100 gallons per minute). No documentation was found in regards to notification of a regulatory authority about the alleged exceedance.

#### E. Planned Changes – Not Applicable

### III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

#### A. Legal Authorities

This Order is issued pursuant to section 402 of the Federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and Chapter 5.5, Division 7 of the California Water Code (CWC). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to Article 4, Chapter 4 of the CWC for discharges that are not subject to regulation under CWA section 402.

<sup>1</sup> Instantaneous minimum and instantaneous maximum range.



## B. California Environmental Quality Act (CEQA)

The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, *et seq.*), requiring preparation of an environmental impact report or negative declaration in accordance with Section 13389 of the California Water Code.

## C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a *Water Quality Control Plan, Fourth Edition*, for the *Sacramento and San Joaquin River Basins* (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan.

The Basin Plan at page II-2.00 states that the “...*beneficial uses of any specifically identified water body generally apply to its tributary streams.*” The Basin Plan does not specifically identify beneficial uses for the Indian Springs Creek, but does identify present and potential uses for the Pit River from the mouth of Hat Creek to Shasta Lake, to which Indian Springs Creek is tributary. These beneficial uses are as follows: *municipal and domestic supply; agricultural supply, including stock watering; water contact recreation, including canoeing and rafting; non-contact water recreation, including aesthetic enjoyment; potential warm freshwater habitat; cold freshwater habitat; warm spawning, reproduction, and/or early development; cold spawning, reproduction, and/or early development; and wildlife habitat.* In addition, State Water Resources Control Board (State Water Board) Resolution No. 88-63 requires that, with certain exceptions, the Regional Water Board assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in the Basin Plan. Beneficial uses applicable to Indian Springs Creek are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Indian Springs Creek	<u>Existing:</u> MUN; AGR; REC-1; REC-2; WARM; COLD; SPWN; WILD

The Basin Plan on page II-1.00 states: “*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning...*” and with respect to disposal of wastewaters states that “...*disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*”

The federal CWA, Section 101(a)(2), states: “*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983.*” Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 CFR §§ 131.2 and 131.10, require that all waters of the State be regulated to

protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 CFR, defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 CFR § 131.10, requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

In reviewing whether the existing and/or potential uses of the Pit River apply to the Indian Springs Creek, the Regional Water Board has considered the following facts:

a. Domestic Supply and Agricultural Supply

The Regional Water Board is required to apply the beneficial uses of municipal and domestic supply to the Indian Springs Creek based on State Water Board Resolution No. 88-63 which was incorporated in the Basin Plan pursuant to Regional Water Board Resolution No. 89-056.

b. Water Contact and Noncontact Recreation and Esthetic Enjoyment

The Regional Water Board finds that the discharge flows through residential areas, there is ready public access to Indian Springs Creek, exclusion of the public is unrealistic and contact recreational activities currently exist along Indian Springs Creek and downstream waters and these uses are likely to increase as the population in the area grows. Prior to flowing into the Pit River, Indian Springs Creek flows through areas of general public access, meadows, residential areas, and parks. Pit River also offers recreational opportunities.

c. Preservation and Enhancement of Fish, Wildlife, and Other Aquatic Resources

Indian Springs Creek flows to the Pit River. The Basin Plan (Table II-1) designates the Pit River as being both a cold and potential warm freshwater habitat. Therefore, pursuant to the Basin Plan (Table II-1, Footnote (2)), the cold designation applies to Indian Springs Creek. The cold-water habitat designation necessitates that the in-stream dissolved oxygen concentration be maintained at, or above, 7.0 mg/L.

Upon review of the flow conditions, habitat values, and beneficial uses of Indian Springs Creek, and the facts described above, the Regional Water Board finds that the beneficial uses identified in the Basin Plan for Pit River are applicable to Indian Springs Creek.

2. ***Thermal Plan.*** The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on 18 May 1972, and amended this plan on 18 September 1975. This plan contains temperature objectives for surface waters.

3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on 22 December 1992, which was amended on 4 May 1995 and 9 November 1999, and the CTR on 18 May 2000, which was amended on 13 February 2001. These rules include water quality criteria for priority pollutants and are applicable to this discharge.
4. **State Implementation Policy.** On 2 March 2000, State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on 28 April 2000, with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on 18 May 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the California Toxics Rule. The State Water Board adopted amendments to the SIP on 24 February 2005 that became effective on 13 July 2005.
5. **Alaska Rule.** On 30 March 2000, USEPA revised its regulation that specifies when new and revised State and Tribal water quality standards (WQS) become effective for CWA purposes (40 CFR 131.21, 65 FR 24641, 27 April 2000). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after 30 May 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by 30 May 2000, may be used for CWA purposes, whether or not approved by USEPA.
6. **Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. The technology-based effluent limitations consist of restrictions on the flow rate. Water quality-based effluent limitations have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to 40 CFR 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations are based on the CTR-SIP, which was approved by USEPA on 18 May 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to 30 May 2000, but not approved by USEPA before that date, are nonetheless “*applicable water quality standards for purposes of the CWA*” pursuant to 40 CFR 131.21(c)(1).
7. **Antidegradation Policy.** Section 131.12 of 40 CFR requires that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution 68-16, which incorporates the requirements of the federal antidegradation policy. Resolution 68-16 requires that existing water quality is maintained unless degradation is justified based on specific findings. As discussed in detail in this Fact Sheet, the permitted discharge is consistent with the antidegradation provision of 40 CFR §131.12 and State Water Board

Resolution 68-16.

The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

8. ***Anti-Backsliding Requirements.*** Sections 402(o)(2) and 303(d)(4) of the CWA and 40 CFR §122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. All effluent limitations in the Order are at least as stringent as the effluent limitations in the previous Order.
9. ***Monitoring and Reporting Requirements.*** Section 122.48 of 40 CFR requires that all NPDES permits specify requirements for recording and reporting monitoring results. Sections 13267 and 13383 of the CWC authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) establishes monitoring and reporting requirements to implement federal and State requirements. This MRP is provided in Attachment E.

**D. Impaired Water Bodies on CWA 303(d) List – Not Applicable**

**E. Other Plans, Policies, and Regulations – Not Applicable**

**IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS**

Effluent limitations and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.

The Federal CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., § 1311(b)(1)(C); 40 CFR, § 122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to Federal Regulations, 40 CFR Section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that “*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality.*” Federal Regulations, 40 CFR, §122.44(d)(1)(vi), further provide that “[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits.”

The CWA requires point source discharges to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The

control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: 40 CFR §122.44(a) requires that permits include applicable technology-based limitations and standards, and 40 CFR §122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Regional Water Board's Basin Plan, page IV-17.00, contains an implementation policy ("Policy for Application of Water Quality Objectives" that specifies that the Regional Water Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives.*" This Policy complies with 40 CFR §122.44(d)(1). With respect to narrative objectives, the Regional Water Board must establish effluent limitations using one or more of three specified sources, including (1) EPA's published water quality criteria, (2) a proposed state criterion (*i.e.*, water quality objective) or an explicit state policy interpreting its narrative water quality criteria (*i.e.*, the Regional Water Board's "Policy for Application of Water Quality Objectives")(40 CFR 122.44(d)(1) (vi) (A), (B) or (C)), or (3) an indicator parameter. The Basin Plan contains a narrative objective requiring that: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*" (narrative toxicity objective). The Basin Plan requires the application of the most stringent objective necessary to ensure that surface water and groundwater do not contain chemical constituents, discoloration, toxic substances, radionuclides, or taste and odor producing substances that adversely affect beneficial uses. The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The Basin Plan also limits chemical constituents in concentrations that adversely affect surface water beneficial uses. For waters designated as municipal, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCL) of CCR Title 22. The Basin Plan further states that, to protect all beneficial uses, the Regional Water Board may apply limits more stringent than MCLs. When a reasonable potential exists for exceeding a narrative objective, Federal Regulations mandate numerical effluent limitations and the Basin Plan narrative criteria clearly establish a procedure for translating the narrative objectives into numerical effluent limitations.

#### **A. Discharge Prohibitions**

As stated in the Federal Standard Provisions (Attachment D), this Order prohibits bypass from any portion of the treatment facility. Federal Regulations, 40 CFR 122.41 (m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the Federal Regulations, 40 CFR 122.41 (m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Resources Control Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the Federal Regulations, 40 CFR 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation. In the case of *United States v. City of Toledo, Ohio* (63 F. Supp 2d 834, N.D. Ohio 1999) the Federal Court ruled that "*any bypass which occurs because of inadequate plant capacity is unauthorized...to the extent that there are 'feasible alternatives', including the construction or installation of additional treatment capacity*".

**B. Technology-Based Effluent Limitations – Not Applicable**

**C. Water Quality-Based Effluent Limitations (WQBELs)**

**1. Scope and Authority**

As specified in 40 CFR §122.44(d)(1)(i), permits are required to include WQBELs for pollutants (including toxicity) that are or may be discharged at levels that cause, have reasonable potential to cause, or contribute to an excursion above any state water quality standard. The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or water quality criteria contained in the CTR and NTR.

**2. Applicable Beneficial Uses and Water Quality Criteria and Objectives**

- a. **Receiving Water**—The receiving stream is the Indian Springs Creek, which is tributary to the Pit River. The beneficial uses of Indian Springs Creek, as described above in VII.1, are as follows:

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Indian Springs Creek	<u>Existing:</u> MUN; AGR; REC-1; REC-2; WARM; COLD; SPWN; WILD

- b. **Hardness**—While no Effluent Limitation for hardness is necessary in this Order, hardness is critical to the assessment of the need for, and the development of, Effluent Limitations for certain metals. The *California Toxics Rule*, at (c)(4), states the following:

“Application of metals criteria. (i) *For purposes of calculating freshwater aquatic life criteria for metals from the equations in paragraph (b)(2) of this section, for waters with a hardness of 400 mg/L or less as calcium carbonate, the actual ambient hardness of the surface water shall be used in those equations.*” [emphasis added]

The State Water Resources Control Board, in footnote 19 to Water Quality Order No. 2004-0013, stated: “*We note that...the Regional Water Board...applied a variable hardness value whereby effluent limitations will vary depending on the actual, current hardness values in the receiving water. We recommend that the Regional Water Board establish either fixed or seasonal effluent limitations for metals, as provided in the SIP, rather than ‘floating’ effluent limitations.*”

Effluent Limitations for the discharge must be set to protect the beneficial uses of the receiving water for all discharge conditions. In the absence of the option of including condition-dependent, “floating” effluent limitations that are reflective of actual conditions at the time of discharge, Effluent Limitations must be set using the worst-case condition (e.g., lowest ambient hardness) in order to protect beneficial uses for all discharge conditions.

- c. ***Assimilative Capacity/Mixing Zone***—Based on the available information, the worst-case dilution is assumed to be zero to provide protection for the receiving water beneficial uses. The impact of assuming zero assimilative capacity within the receiving water is that discharge limitations are end-of-pipe limits with no allowance for dilution within the receiving water.

### 3. **Determining the Need for WQBELs**

- a. Reasonable potential (RP) was determined by calculating the projected maximum effluent concentration (MEC) for each constituent and comparing it to applicable water quality criteria; if a criterion was exceeded, the discharge was determined to have reasonable potential to exceed a water quality objective for that constituent. The projected MEC is determined by multiplying the observed MEC (the maximum detected concentration) by a factor that accounts for statistical variation. The multiplying factor is determined (for 99% confidence level and 99% probability basis) using the number of results available and the coefficient of variation (standard deviation divided by the mean) of the sample results. In accordance with the SIP, non-detect results were counted as one-half the detection level when calculating the mean and standard deviation. For all constituents for which the source of the applicable water quality standard is the CTR or NTR, the multiplying factor is 1. Reasonable potential evaluation was based on the methods used in the SIP and the USEPA Technical Support Document for Water Quality-Based Toxics Control [EPA/505/2-90-001].
- b. Federal regulations require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause, or contribute to an in-stream excursion above a narrative or numerical water quality standard. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs the Regional Water Board finds that the discharge does not have a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard.
- c. ***Organochlorine Pesticides***— Aldrin, beta BHC (beta-hexachlorocyclohexane), and delta BHC are chlorinated hydrocarbon pesticides. The Basin Plan requires that no individual pesticides shall be present in concentrations that adversely affect beneficial uses; discharges shall not result in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses; total chlorinated hydrocarbon pesticides shall not be present in the water column at detectable concentrations; and pesticide concentrations shall not exceed those allowable by applicable antidegradation policies. The CTR contains numeric criteria for aldrin, beta BHC, and delta BHC of 0.00013 µg/L, 0.014 µg/L, and 500 µg/L, respectively, for freshwaters from which both water and organisms are consumed.

Aldrin, beta BHC and delta BHC were detected in the effluent at concentrations of 0.002 µg/L, 0.003 µg/L, and 0.005 µg/L, respectively, on 17 November 2005. Two additional sets of sampling data collected by Regional Water Board staff on 24 January 2006 and 23 February 2006 showed that aldrin, beta BHC, and delta BHC were not detectable in the effluent.

Section 1.2 of the SIP states that, “The RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy.” The source water is from geothermal springs. There are no agricultural operations in the vicinity that might account for the presence of pesticides. Nor has there been a past presence of such operations. Based on the results of the January and February 2006 sampling episodes, the RWQCB has concluded that there is not a sufficient basis for the establishment of effluent limitations. However, this Order does include a requirement for the sampling of priority pollutants. If subsequent monitoring indicates the presence of organochlorine pesticides in amounts that would violate the Basin Plan requirements, this Order may be reopened and effluent limitations established.

- d. ***Electrical Conductivity and Total Dissolved Solids (TDS)*** —The RWQCB is developing a salinity policy for the Central Valley Region. Until such time as the policy is adopted and implemented, effluent limitations for EC and TDS are not being established in this Order. Monitoring for both parameters is being required. If subsequent monitoring indicates the presence of EC or TDS in concentrations that would result in the necessity of controlling either of these parameters, this Order may be reopened and effluent limitations established.
- e. ***Flow***—The Facility was designed to discharge at a maximum flow 0.144 mgd. The effluent flow limit is therefore set at 0.144 mgd.
- f. ***pH***—The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the “...*pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses.*” Effluent Limitations for pH are included in this Order and are based on the Basin Plan objectives for pH.
- g. ***Toxicity***—The Basin Plan states that “[a]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.” The Basin Plan requires that “[a]s a minimum, compliance with this objective...shall be evaluated with a 96-hour bioassay.” This Order requires both acute and chronic toxicity monitoring to evaluate compliance with this water quality objective.

The Basin Plan further states that “...*effluent limits based upon acute biotoxicity tests of effluents will be prescribed...*”. Effluent limitations for acute toxicity are included in this Order.
- h. ***Zinc***— The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for zinc. The criteria for zinc are presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The conversion factors for zinc in freshwater are 0.978 for the acute criteria and 0.986 for the chronic criteria.



Total zinc and hardness analysis for the Facility's geothermal discharge and Indian Springs Creek above and below the discharge (R-1U and R-2D) are summarized in the table below:

<b>Date</b>	<b>Discharge Concentration/Hardness</b>	<b>R-1U Concentration/Hardness</b>	<b>R-2D Concentration/Hardness</b>
02/23/2006	8.6 µg/L /60 mg/L	3.9 µg/L /52 mg/L	3.2 µg/L /49 mg/L
01/24/2006	4.6 µg/L /16 mg/L	4.5 µg/L /46 mg/L	4.2 µg/L /22 mg/L
11/07/2005	0.8 µg/L /15 mg/L	6.8 µg/L /43 mg/L	n/a
02/27/2003	92 µg/L	n/a	n/a
10/25/2000	21 µg/L /11 mg/L	23 µg/L /72 mg/L	<20 µg/L /58 mg/L
07/26/2000	53 µg/L /11 mg/L	<20 µg/L	<20 µg/L /20 mg/L

Using the worst-case ambient (lowest upstream receiving water) measured hardness from the effluent and receiving water data (43 mg/L), the applicable chronic criterion (maximum four-day average concentration) and the applicable acute criterion (maximum one-hour average concentration) are both 59 µg/L.

As zinc has been detected at 92 µg/L in the effluent, it would appear that a reasonable potential for exceeding an applicable receiving water criterion has been demonstrated. A closer examination of the data, however, reveals that the 92 µg/L value is a probable outlier. Firstly it appears to be an outlier on purely statistical grounds. This cannot be rigorously demonstrated as there are insufficient data points; however the table below illustrates the effect of the 92 µg/L value on the data set.

<b>Data set</b>	<b>Sample Std Dev.</b>	<b>Sample Mean</b>
Set without 92 µg /L value	21.2	17.6
Entire Set	35.8	30

The 92 µg /L value is two standard deviations above the mean for the entire set and 3.5 standard deviations above the mean for the set which does not include the 92 µg/L value.

More important than the purely statistical inference is the fact that the 92 µg/L sample was the only one taken by the Discharger, and that the sample was taken in February when groundwater dilution of the geothermal source water could be expected to be at a near maximum. Note that the next highest effluent total zinc value of 53 µg /L was determined for a sample taken in late July, and that the next highest after the 53 µg /L was 21 µg /L for a sample taken in October. It appears likely that some contamination or laboratory error was a factor in the Discharger's sample result.

Section 1.2 of the SIP states that, "The RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy." According to RWQCB's decision that this data point is erroneous and that it should not be considered in the determination of reasonable potential. Without the 92 µg /L value there is no reasonable potential for the discharge to cause the applicable water quality criterion for zinc to be exceeded and therefore no requirement for an effluent limit.

4. **WQBEL Calculations –Not Applicable**

5. **Whole Effluent Toxicity (WET)**

For compliance with the Basin Plan’s narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). This Order also contains effluent limitations for acute toxicity and requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

- a. **Acute Toxicity:** The Basin Plan further states that “...*effluent limits based upon acute biotoxicity tests of effluents will be prescribed...*”. Effluent limitations for acute toxicity are included in this Order. This Order includes the following limitation for acute toxicity:

Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay - - - - - 70%

Median for any three consecutive bioassays - - - 90%

- b. **Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at III-8.00.) Due to the nature of a spent geothermal wastewater discharge, the discharge has reasonable potential to cause or contribute to an to an in-stream excursion above of the Basin Plan’s narrative toxicity objective.

No dilution has been granted for the chronic condition. Therefore, chronic toxicity testing results exceeding 1 chronic toxicity unit (TUc) demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan’s narrative toxicity objective.

Numeric chronic WET effluent limitations have not been included in this order. However, to ensure compliance with the Basin Plan’s narrative toxicity objective, the Discharger is required to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). Furthermore, Special Provisions VI.C.2.a of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates a pattern of toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan. The numeric toxicity monitoring trigger is not an effluent limitation, it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity monitoring, as well as, the threshold to initiate a TRE if a pattern of effluent toxicity has been demonstrated.

#### D. Final Effluent Limitations

1. 40 CFR §122.45 states that:
  - a. *“All pollutants limited in permits shall have limitations...expressed in terms of mass except...[f]or pH, temperature, radiation, or other pollutants which cannot appropriately be expressed by mass...Pollutants limited in terms of mass additionally may be limited in terms of other units of measurement, and the permit shall require the permittee to comply with both limitations.”*

#### Summary of Final Effluent Limitations Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	mgd			0.144		
pH	standard units	--	--	--	6.0	9.0

**Acute Toxicity:** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay - - - - - 70%

Median for any three or more consecutive bioassays - - - - 90%

E. **Interim Effluent Limitations – Not Applicable**

F. **Land Discharge Specifications – Not Applicable**

G. **Reclamation Specifications – Not Applicable**

#### V. RATIONALE FOR RECEIVING WATER LIMITATIONS

##### A. Surface Water

1. The CWA, Section 303(a-c), required states to adopt numeric criteria where they are necessary to protect designated uses. The Regional Water Board adopted numeric criteria in the Basin Plan. The Basin Plan is a regulatory reference for meeting the state and federal requirements for water quality control (40 CFR §131.20). State Water Board Resolution No. 68-16, the Antidegradation Policy, does not allow changes in water quality less than that prescribed in Water Quality Control Plans (Basin Plans). The Basin Plan states that “[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.” This Order contains Receiving Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity and

turbidity.

2. **Ammonia**—The Basin Plan states that, “[w]aters shall not contain un-ionized ammonia in amounts which adversely affect beneficial uses. In no case shall the discharge of wastes cause concentrations of un-ionized ammonia ( $\text{NH}_3$ ) to exceed 0.025 mg/l (as N) in receiving waters.”
3. **Dissolved Oxygen**—The Indian Springs Creek has been designated as having the beneficial use of cold freshwater aquatic habitat (COLD). For water bodies designated as having COLD as a beneficial use, the Basin Plan includes a water quality objective of maintaining a minimum of 7.0 mg/L of dissolved oxygen. Since the beneficial use of COLD does apply to the Pit River, a receiving water limitation of 7.0 mg/L for dissolved oxygen was included in this Order.

For surface water bodies outside of the Delta, the Basin Plan includes the water quality objective that “...the monthly median of the mean daily dissolved oxygen (DO) concentration shall not fall below 85 percent of saturation in the main water mass, and the 95 percentile concentration shall not fall below 75 percent of saturation.” This objective was included as a receiving water limitation in this Order.

4. **Fecal coliform**—The Indian Springs Creek has been designated as having the beneficial use of contact recreation (REC-1). For water bodies designated as having REC-1 as a beneficial use, the Basin Plan includes a water quality objective limiting the “...fecal coliform concentration based on a minimum of not less than five samples for any 30-day period...” to a maximum geometric mean of 200 MPN/100 mL. The objective also states that “[no] more than ten percent of the total number of samples taken during any 30-day period [shall] exceed 400/100 ml.” This objective is included in this Order as a receiving water limitation.
5. **pH**—For all surface water bodies in the Sacramento River and San Joaquin River basins, the Basin Plan includes water quality objectives stating that “[t]he pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters with designated COLD or WARM beneficial uses.” This Order includes receiving water limitations for both pH range and pH change.

The Basin Plan allows an appropriate averaging period for pH change in the receiving stream. Since there is no technical information available that indicates that aquatic organisms are adversely affected by shifts in pH within the 6.5 to 8.5 range, an averaging period is considered appropriate and a monthly averaging period for determining compliance with the 0.5 receiving water pH limitation is included in this Order.

6. **Temperature**—The Basin Plan Indian Springs Creek has the beneficial uses of both COLD and WARM. The Basin Plan includes the objective that “[a]t no time or place shall the temperature of COLD or WARM intrastate waters be increased more than 5°F above natural receiving water temperature.” This Order includes a receiving water limitation based on this objective.

7. **Turbidity**—The Basin Plan includes the following objective: “*Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:*

- *Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.*
- *Where natural turbidity is between 5 and 10 NTUs, increases shall not exceed 20 percent.*
- *Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTU.*
- *Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.”*

**B. Groundwater – Not Applicable**

**VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS**

Section 122.48 of 40 CFR requires all NPDES permits to specify recording and reporting of monitoring results. Sections 13267 and 13383 of the California Water Code authorize the Water Boards to require technical and monitoring reports. The Monitoring and Reporting Program, Attachment E of this Order, establishes monitoring and reporting requirements to implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program for this facility.

**A. Influent Monitoring – Not Applicable**

**B. Effluent Monitoring**

1. The SIP states that if “...*all reported detection limits of the pollutant in the effluent are greater than or equal to the C [water quality criterion or objective] value, the RWQCB [Regional Water Board] shall establish interim requirements...that require additional monitoring for the pollutant...*” All reported detection limits are greater than or equal to corresponding applicable water quality criteria or objectives. Monitoring for these constituents has been included in this Order in accordance with the SIP.
2. Pursuant to the requirements of 40 CFR §122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream.

**C. Whole Effluent Toxicity Testing Requirements**

The Basin Plan states that “[a]ll waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.” The Basin Plan requires that “[a]s a minimum, compliance with this objective...shall be evaluated with a 96-hour bioassay.” This Order requires both acute and chronic toxicity monitoring to evaluate compliance with this water quality objective.

The receiving surface water for the facility is the Indian Springs Creek, an inland surface water providing freshwater aquatic habitat. Beneficial uses of the Indian Springs Creek include warm freshwater habitat (WARM); cold freshwater habitat (COLD); warm and cold spawning, reproduction, and/or early development (SPWN); and wildlife habitat (WILD). Given that the receiving stream has beneficial uses of cold freshwater habitat, and cold spawning, reproduction, and/or early development, it is appropriate to use a cold/warm-water species such as *O. mykiss* (rainbow trout) for aquatic toxicity bioassays.

USEPA has approved test methods for of *Pimephales promelas*, *Selenastrum capricornutum*, and *Ceriodaphnia dubia* for assessing chronic toxicity in freshwater organisms.

#### **D. Receiving Water Monitoring**

##### **1. Surface Water**

- a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.

##### **2. Groundwater – Not Applicable**

#### **E. Other Monitoring Requirements – Not Applicable**

### **VII. RATIONALE FOR PROVISIONS**

#### **A. Standard Provisions**

Standard Provisions, which in accordance with 40 CFR §§122.41 and 122.42, apply to all NPDES discharges and must be included in every NPDES permit, are provided in Attachment D to the Order.

Title 40 CFR Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR Section 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with Section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR Sections 122.41(j)(5) and (k)(2) because the enforcement authority under the CWC is more stringent. In lieu of these conditions, this Order incorporates by reference CWC section 13387(e).

#### **B. Special Provisions**

##### **1. Reopener Provisions**

Upon adoption of any applicable water quality standard for receiving waters by the Regional Water Board or the State Water Board pursuant to the CWA and regulations adopted

thereunder, this permit may be reopened and receiving water limitations added.

## 2. Special Studies and Additional Monitoring Requirements

- a. **Priority Pollutant Monitoring.** The State Water Resources Control Board (SWRCB) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP). The SIP states that the Regional Boards will require periodic monitoring (at least once prior to issuance and reissuance of a permit) for pollutants for which criteria or objectives apply and for which no effluent limitations have been established.

The Regional Board is requiring, as part of this Monitoring and Reporting Program, that the Discharger monitor effluent and receiving water upstream of the discharge and analyze the sample for priority pollutant metals **one time, at least 180 days, but no more than 365 days prior to expiration of this Order.**

The Discharger must analyze pH and hardness of the effluent and intake water at the same time as priority pollutants. The priority pollutants, for which this one-time analysis is required are listed in Attachment G.

All priority pollutant analyses shall be performed at a laboratory certified by the California Department of Health Services. The laboratory is required to submit the Minimum Level (ML) and the Method Detection Limit (MDL) with the reported results for each constituent. The MDL should be as close as practicable to the USEPA MDL determined by the procedure found in 40 CFR Part 136. The results of analytical determinations for the presence of chemical constituents in a sample shall use the following reporting protocols:

- i. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory.
- ii. Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.
- iii. For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words "Estimated Concentration." Numerical estimates of data quality may be by percent accuracy (+ or – a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.
- iv. Sample results that are less than the laboratory's MDL shall be reported as "Not Detected" or ND.

3. **Best Management Practices and Pollution Prevention – Not Applicable**
4. **Construction, Operation, and Maintenance Specifications– Not Applicable**
5. **Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable**
6. **Other Special Provisions**
  - a. This Order requires the Discharger to use the best practicable treatment or control technique currently available to limit mineralization to no more than a reasonable increment.
  - b. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, Sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, Sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
  - c. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition or limitation contained in this Order, this Order requires the Discharger to notify the Regional Water Board by telephone (530) 224-4845 (or to the Regional Water Board staff person assigned to the facility) within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Federal Standard Provision V.E.1 [40 CFR §122.41(l)(6)(i)].
  - d. The Discharger's sanitary sewer system collects wastewater using sewers, pipes, pumps, and/or other conveyance systems and directs the raw sewage to the wastewater treatment plant. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the wastewater treatment plant. Sanitary sewer overflows are prohibited by this Order. All violations must be reported as required in the Federal Standard Provisions. Facilities (such as wet wells, regulated impoundments, tanks, highlines, *etc.*) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage facilities.
  - e. Prior to making any change in the discharge point, place of use, or purpose of use of the wastewater, the Discharger must obtain approval of, or clearance from the State Water Resources Control Board (Division of Water Rights).



In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the State of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory paragraph of Federal Standard Provision V.B.5 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

#### **7. Compliance Schedules – Not Applicable**

### **VIII. PUBLIC PARTICIPATION**

The California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Indian Spring Elementary School geothermal heating system. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

#### **A. Notification of Interested Parties**

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through mailing of notice, and internet and physical posting.

#### **B. Written Comments**

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m. on 20 September 2006.

### **C. Public Hearing**

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **20/21 September 2006**

Time: **9:00 AM**

Location: Central Valley Regional Water Quality Control Board, Sacramento Office  
11020 Sun Center Drive, #200  
Rancho Cordova, CA 95670

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our web address is <http://www.waterboards.ca.gov/centralvalley> where you can access the current agenda for changes in dates and locations.

### **D. Waste Discharge Requirements Petitions**

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board  
Office of Chief Counsel  
P.O. Box 100, 1001 I Street  
Sacramento, CA 95812-0100

### **E. Information and Copying**

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (530) 224-4845. The Regional Water Board, Redding Office is located at 415 Knollcrest Drive, Suite 100, Redding, CA 96002.

### **F. Register of Interested Persons**

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

### **G. Additional Information**

Requests for additional information or questions regarding this order should be directed to Jim Rohrbach at (530) 224-3213 or Bryan Smith at (530) 226-3425.

# ATTACHMENT G – TOXIC PRIORITY POLLUTANTS TO BE MONITORED

1	Antimony	47	2,4-Dimethylphenol	94	Naphthalene
2	Arsenic	48	2-Methyl- 4,6-Dinitrophenol	95	Nitrobenzene
3	Beryllium	49	2,4-Dinitrophenol	96	N-Nitrosodimethylamine
4	Cadmium	50	2-Nitrophenol	97	N-Nitrosodi-n-Propylamine
5a	Chromium (III)	51	4-Nitrophenol	98	N-Nitrosodiphenylamine
5b	Chromium (VI)	52	3-Methyl 4-Chlorophenol	99	Phenanthrene
6	Copper	53	Pentachlorophenol	100	Pyrene
7	Lead	54	Phenol	101	1,2,4-Trichlorobenzene
8	Mercury	55	2,4,6-Trichlorophenol	102	Aldrin
9	Nickel	56	Acenaphthene	103	alpha-BHC
10	Selenium	57	Acenaphthylene	104	beta-BHC
11	Silver	58	Anthracene	105	gamma-BHC
12	Thallium	59	Benzidine	106	delta-BHC
13	Zinc	60	Benzo(a)Anthracene	107	Chlordane
14	Cyanide	61	Benzo(a)Pyrene	108	4,4'-DDT
15	Asbestos	62	Benzo(b)Fluoranthene	109	4,4'-DDE (linked to DDT)
16	2,3,7,8 TCDD	63	Benzo(ghi)Perylene	110	4,4'-DDD
17	Acrolein	64	Benzo(k)Fluoranthene	111	Dieldrin
18	Acrylonitrile	65	Bis(2-Chloroethoxy)Methane	112	alpha-Endosulfan
19	Benzene	66	Bis(2-Chloroethyl)Ether	113	beta-Endosulfan
20	Bromoform	67	Bis(2-Chloroisopropyl)Ether	114	Endosulfan Sulfate
21	Carbon Tetrachloride	68	Bis(2-Ethylhexyl)Phthalate	115	Endrin
22	Chlorobenzene	69	4-Bromophenyl Phenyl Ether	116	Endrin Aldehyde
23	Chlorodibromomethane	70	Butylbenzyl Phthalate	117	Heptachlor
24	Chloroethane	71	2-Chloronaphthalene	118	Heptachlor Epoxide
25	2-Chloroethylvinyl ether	72	4-Chlorophenyl Phenyl Ether	119-125	PCBs sum
26	Chloroform	73	Chrysene	126	Toxaphene
27	Dichlorobromomethane	74	Dibenzo(a,h)Anthracene		
28	1,1-Dichloroethane	75	1,2-Dichlorobenzene		
29	1,2-Dichloroethane	76	1,3-Dichlorobenzene		
30	1,1-Dichloroethylene	77	1,4-Dichlorobenzene		
31	1,2-Dichloropropane	78	3,3-Dichlorobenzidine		
32	1,3-Dichloropropylene	79	Diethyl Phthalate		
33	Ethylbenzene	80	Dimethyl Phthalate		
34	Methyl Bromide	81	Di-n-Butyl Phthalate		
35	Methyl Chloride	82	2,4-Dinitrotoluene		
36	Methylene Chloride	83	2,6-Dinitrotoluene		
37	1,1,2,2-Tetrachloroethane	84	Di-n-Octyl Phthalate		
38	Tetrachloroethylene	85	1,2-Diphenylhydrazine		
39	Toluene	86	Fluoranthene		
40	1,2-Trans-Dichloroethylene	87	Fluorene		
41	1,1,1-Trichloroethane	88	Hexachlorobenzene		
42	1,1,2-Trichloroethane	89	Hexachlorobutadiene		
43	Trichloroethylene	90	Hexachlorocyclopentadiene		
44	Vinyl Chloride	91	Hexachloroethane		
45	2-Chlorophenol	92	Indeno(1,2,3-cd)Pyrene		
46	2,4-Dichlorophenol	93	Isophorone		